

**REMARKS/ARGUMENTS**

**Amendments**

Before this Amendment, claims 1-11 and 21 were present for examination. Claims 12-20 were previously withdrawn. Claims 1 and 21 are amended by this paper. Claims 12-20 are canceled as was requested in the Advisory Action, and no claims are added. Therefore, claims 1-11 and 21 are present for examination, and claims 1 and 21 are the independent claims. No new matter is added by these amendments.

This amendment is being submitted in conjunction with a Request for Continued Examination under 37 C.F.R. § 1.114. Applicants respectfully reconsideration and further examination of the application as amended.

**Claim Objection**

The Final Office Action ("Office Action") has objected to claim 1 as being a substantial duplicate of claim 21. The Office Action asserts that the term *paper advancement monitor* is only nominatively and not substantively different from the term *monitor* used in claim 1. Applicants respectfully disagree.

As is explained in paragraph [0024] of the specification, a monitor may “determine if printer 120 is printing, stopped, how much stock quantity has been advanced through printer 120, and/or the like.” A *paper advancement monitor* clearly monitors *paper advancement*. As such, claim 1 would read on a hypothetical monitor that only determines whether a printer is printing or stopped and does not measure paper advancement. Claim 21 requires monitoring of paper advancement, and thus claim 21 would not read on that hypothetical monitor. The two claims have different scope, and claim 21 is not a substantial duplicate of claim 1.

Nevertheless, in order to advance prosecution of the application, claim 21 has been amended to clarify that the *paper advancement monitor is operable to provide, to a microprocessor based system controller, an indication of an amount of paper advanced through*

*the printer*. Applicants believe the objection to be both traversed and overcome, and respectfully request that it be withdrawn.

**Rejection Under 35 U.S.C. § 112, First Paragraph**

The Final Office Action has rejected claim 21 under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement. Specifically, the Office Action alleges that the term *paper advancement monitor* is not described in the specification. Applicants respectfully disagree.

As is explained in paragraph [0024] of the specification, printer monitor 210 “can determine ... how much stock quantity has been advanced through printer 120....” At paragraph [0021] the specification explains that “[i]n some cases, the stock quantity is a roll of **paper** or card stock that is unrolled as it is printed.” (Emphasis added) Indeed, one dictionary definition of “stock” is “paper used for printing”. (See Merrian Webster Online dictionary.) A *paper advancement monitor* is a monitor that monitors paper advancement, and is amply described in the specification. Applicants note that exact terms from the specification “need not be used *in haec verba* to satisfy the written description requirement of the first paragraph of 35 U.S.C. 112.” MPEP § 1302.01, citing *Eiselstein v. Frank*, 52 F.3d 1035, 1038, 34 USPQ2d 1467, 1470 (Fed. Cir. 1995) and *In re Wertheim*, 541 F.2d 257, 265, 191 USPQ 90, 98 (CCPA 1976).

Applicants respectfully request that the rejection be withdrawn.

**Rejection Under 35 U.S.C. § 112, Second Paragraph**

The Office Action has rejected claim 21 under 35 U.S.C. § 112, second paragraph, as being indefinite. Specifically, the Office Action asserts that the term *paper advancement monitor* is not sufficiently well defined in the specification that the metes and bounds of the invention may be determined. Applicants respectfully disagree.

As is explained above, a *paper advancement monitor* is a *monitor* that monitors *paper advancement*, and is described in the specification. Applicants respectfully request that the rejection be withdrawn.

**Rejection Under 35 U.S.C. § 102, Hopper**

The Office Action has rejected claims 1-11 and 21 under 35 U.S.C. § 102(e) as being anticipated by the cited portions of Hopper et al, U.S. Patent 7,061,391 ("Hopper"). Applicants respectfully traverse.

"A claim is anticipated only if **each and every element** as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), emphasis added.

Applicants' invention describes a system retrofitted to an existing printing system. The existing printing system includes a *printer controller* and a *printer*. The retrofitted devices include a *monitor* and a *microprocessor based system controller*. The system is useful to enhance the performance of the existing components, for example to reduce printing waste. (Specification paragraphs [0004]-[0006]).

**Claims 1-11**

Claim 1 as amended recites:

1. *A retrofitted printing system including an existing printer and printer controller combination, the retrofitted printing system comprising:  
a **monitor** coupled to the printer; and  
a **microprocessor based system controller**;  
wherein the monitor is operable to provide an indication of status associated with the printer to the microprocessor based system controller, wherein the microprocessor based system controller is coupled to the monitor and the printer controller, wherein the system controller includes a computer readable medium, and wherein the computer readable medium includes instructions executable by the microprocessor to:  
receive an operator command;  
format the operator command into a command compatible with the printer and printer controller combination;  
provide the command compatible with the printer and printer controller combination to the printer controller; and  
receive the indication of status associated with the printer from the monitor.*

As is recited in claim 1 and depicted in Applicants' Figure 2, two devices are required by claim 1 in addition to the printer and printer controller – a *monitor* and a *microprocessor based system controller*. Hopper is missing both of these.

Applicants' *monitor* performs a sensing or information gathering function and provides information to the *microprocessor based system controller*. In the language of claim 1, *the monitor is operable to provide an indication of status associated with the printer to the microprocessor based system controller*. For example, the monitor “can determine if printer 120 is printing, stopped, how much stock quantity has been advanced through printer 120, and/or the like.” (Specification paragraph [0024]) The monitor may include an encoder, which is a piece of hardware attached directly to the printer for sensing motion of part of the printer. (Paragraph [0027]) Information about the printer operation is “**gathered** via printer monitor 210”. (Paragraph [0033], emphasis added)

One definition of the word “monitor” is “any of various devices for checking or regulating the performance of machines....” (Webster's New World Dictionary Third College Edition, 1988, p. 877) This is the sense of the word “monitor” used in the present application.

In support of the rejection, the Office Action cites Hopper's element 34, which is described as a “monitor”. (Hopper Figure 1) However, Hopper's element 34 is simply a display, and does not perform any measurement or sensing function. Hopper does not include a device that is a *monitor*, in the sense that word is used in the present application.

Hopper is also missing the element of a *microprocessor based system controller*. As is explained above, Applicants' claim 1 recites four different devices – 1) a *printer*, 2) a *printer controller*, 3) a *monitor*, and 4) a *microprocessor based system controller*. These devices are depicted as separate blocks in Applicants' Figure 2. *The microprocessor based system controller* receives operator commands, formats them, and sends them to the printer and printer controller combination, and receives status information from the monitor. (Claim 1). The *microprocessor based system controller* may be a personal computer. (Paragraph [0018])

In support of the rejection, the Office Action cites element 2 shown in Hopper's Figure 1, and labeled “computer”. However, this element is analogous to Applicants' *printer controller*. Hopper's computer 2 is simply the computer that prints to printers 4a and 4b shown

in Hopper's Figure 1. Applicants' *printer controller* is an existing computer, such as an IBM OS 390 computer, and is connected to the printer in the way Hopper's computer 2 is connected to printer 4A. (Specification paragraph [0023], Figure 2, and Hopper Figure 1).

Hopper does not depict any additional *microprocessor based system controller*, and certainly not one that can receive operator commands, format them, relay them to the printer controller, and receive status information from the monitor. The Office Action cites column 5 lines 13-36 of Hopper as disclosing these functional requirements of the *microprocessor based system controller*, but the cited passage describes only displaying information about the operation of Hopper's printer. It does not describe a device that can

*receive an operator command;  
format the operator command into a command compatible with the  
printer and printer controller combination;  
provide the command compatible with the printer and printer controller  
combination to the printer controller; and  
receive the indication of status associated with the printer from the  
monitor.*

As Applicants have previously pointed out, Hopper's monitor 34 presents information it receives **from** computer 2, and does not provide information **to** any controller. The Office Action asserts that Applicants are arguing limitations into the claim, and that the claim does not recite any limitations as to the transmission directions of the monitor signals. On the contrary, claim 1 recites that the monitor is *operable to provide an indication of status associated with the printer to the microprocessor based system controller*.

Hopper falls far short of disclosing each and every element of Applicants' claim 1, and claim 1 is therefore not anticipated by Hopper. Claims 2-11 depend from claim 1 and add further limitations, and are therefore also not anticipated by Hopper.

Furthermore, several of the dependent claims recite elements not shown in Hopper, and are not anticipated for additional reasons.

Merely by way of non-limiting example, claim 2 recites *an encoder ... coupled to a stock advance mechanism of the printer; and a monitor controller, wherein the monitor controller is communicably coupled to the encoder and to the system controller, and wherein the monitor controller is operable to format information from the encoder to a format compatible with the system controller*. In support of the rejection, the Office Action insists that Hopper's monitor 34 will inherently include a "controller" such as a microprocessor. Even if true, a simple display does not *format information from the encoder to a format compatible with the system controller*, (which *system controller* does not even exist in Hopper anyway).

In another example, claim 4 recites that the instructions in the system controller are executable to *determin[e] an optimum length of the stock quantity to be used*. In support of the rejection, the Office Action cites portions of column 6 of Hopper. This passage only describes predicting how much toner might be used by a print job, based on characteristics of the job. It does not describe *determining an optimum length of the stock quantity to be used*.

In another example, claim 9 recites that the system controller can *determine a waste associated with the particular print job*. This determination is based in part on actual measurements of stock used. (See claim 8, from which claim 9 depends.) In support of the rejection, the Office Action cites column 6 line 66 through column 7 line 1 of Hopper, suggesting that the "error" determined by Hopper correlates to Applicants' *waste*. It does not. This passage of Hopper describes comparing an actual measurement of toner used with a prediction of the amount that would be used, in order to improve future predictions. It is not related to determining whether any waste occurred.

In yet another example, claim 10 recites that the system controller can *log a status of the particular print job in relation to an operator associated with the particular print job; and based at least in part on the status of the particular print job, form a rating of the operator*. As is explained in the specification, this rating is a measure of the efficiency of a person operating the system, and may be used, for example, to determine bonuses and incentives given to the operator. (Specification paragraph [0026]) Hopper is completely silent about quantifying the performance of any person. In support of the rejection, the Office Action cites step 160 from Figure 5 of Hopper. Step 160 states in its entirety "Display toner needle at zero on gauge." In

other words, Hopper simply displays in indication that a printer is out of toner, and the cited step is unrelated to the performance of any operator of the system. Hopper does not describe a system controller that can *form a rating of the operator*.

Claim 21

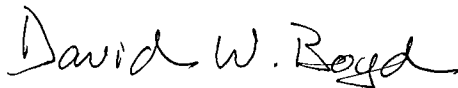
Claim 21 includes limitations similar to those discussed above in relation to claim 1, and is not anticipated by Hopper for at least the reasons given above with respect to claim 1. Furthermore, Hopper does not describe a *paper advancement monitor that is operable to provide, to a microprocessor based system controller, an indication of an amount of paper advanced through the printer* as recited in claim 21.

**CONCLUSION**

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,



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